

Naval Postgraduate School
Monterey, California

23rd Annual

Technology Review and Update



A Short Course for
Technical Personnel
and
Decision Makers

April 18-21, 2006

<http://www.sp.nps.navy.mil/trau>

General Information

Registration:

Registration due by March 31, 2006.

Please register online: www.sp.nps.navy.mil/trau

If you cannot register online, please give us a call.

Receipt of registration will be acknowledged.

Registration Fee:

U.S. \$800.00

Methods of Payment:

- Check made payable to "Treasurer of the United States".
- Request and Authorization for Training, DD Form 1556.
- Request for Work or Services, NAVCOMPT Form 2275.
- Military Interdepartmental Purchase Request, DD Form 448.
- Credit cards cannot be accepted.

Cancellations/Refunds:

Notification of cancellation must be received no later than March 31, 2006 to obtain a full refund. Registrants who cancel after this date or fail to attend are subject to forfeiture of the entire fee. Substitutions are permitted. NPS reserves the right to cancel this course. Participants will be notified by e-mail and a full refund will be issued. NPS is not responsible for expenses incurred because of course cancellation.

Accommodations:

Rooms are available at the Monterey Hilton (831-373-6144) and Hyatt Regency (800-233-1234). Rooms and government rates will be available on a first-come, first-serve basis only.

Government and military personnel traveling on orders, call:

- NPS BOQ: 831-656-2060
- Navy Lodge: 831-372-6133, or 800-NAVYINN

Transportation:

The Monterey Airport is served by several airlines from Los Angeles and San Francisco. San Francisco International Airport is a two-hour drive and the San Jose International Airport is a one-hour drive from Monterey.

Further Information:

Course content: Prof. R. Panholzer, email: rpanholzer@nps.edu phone: 831-656-2154 or DSN 756-2154;

Registration: Joelle Davi, email: jmdavi@nps.edu phone: 831-656-2948 or Trinh Hoang, email: nthoang@nps.edu phone: 831-656-2958.

About this Course

Objectives and Outline:

The success and popularity of this short course is ensured by recruiting outstanding experts from industry, academia and the government and by constantly fine tuning the contents.

The course is intended for military/government **and civilian** technical personnel and decision makers who need to refresh and update their technical knowledge. The course provides an excellent overview of key technologies, stressing practical aspects and providing insight into trends.

Tuesday A.M.

Internet Security – Opportunity or Oxymoron

Dr. Roger R. Schell, President & CEO, Aesec Corporation

- The Problem – Threats and Vulnerabilities
- Internet Components of Consequence
- The Wired Planet – Information Sharing Demands Security
- Cyberspace Map and Compass – Finding Solutions

Tuesday P.M.

Information Systems, Operations and Strategies

Professor John Arquilla, Department of Defense Analysis, Naval Postgraduate School

- The New Bletchley Park (Intel and Decoding)
- Intelligence-Based Warfare (re field ops)
- Why Networks Matter (an Organizational Perspective)
- Prospects for Military Transformation

Tuesday Evening Dinner

4th Expedition to the International Space Station

Dan Bursch, Astronaut, NRO Chair, (CAPT ret.), Space Systems Academic Group, Naval Postgraduate School

- CAPT Bursch will show pictures and discuss his experience during his 196-day expedition to the International Space Station.

Wednesday A.M.

MEMS and Nanotechnology

Prof. Dennis L. Polla, Department of Electrical and Computer Engineering, University of Minnesota and Microsystems Technology Office, DARPA

- Introduction to Microelectromechanical Systems (MEMS)
- Nanotechnology and its Applications
- Nanoelectromechanical systems (NEMS)
- Nanobiotechnology

Wednesday P.M.

Electro-Optical and Infrared Systems

Distinguished Professor John Powers, Department of Electrical and Computer Engineering, Naval Postgraduate School

- Electro-optic Missile Guidance
- Laser Designators
- Precision Guided Munitions
- Night Vision Imaging

Wednesday Evening

Web-based 3D Modeling and Simulation for Unmanned Systems

CDR Duane Davis USN, Computer Science Department and Modeling, Virtual Environments & Simulation (MOVES) Institute, Naval Postgraduate School

- Extensible 3D (X3D) Graphics and Compressed XML
- NPS Autonomous Unmanned Vehicle (AUV) Workbench

Thursday A.M.

Military Satellite Communications Technology

John Sullivan, AVP/Director, MILSATCOM Programs, Science Applications International Corporation (SAIC)

- Introduction to Military Satellite Communications and Next Generation C3
- Present and Future Narrow-band and Wide-band Satellite Communications
- Present and Future Protected Satellite Communications
- Transformational Communications and the Changing Force

Thursday P.M.

Satellite Communication Technologies and Trends

Dr. James Stuart, President, IOSTAR Corp., Inc.

- Commercial Satellite Communications Revolution
- Key Drivers and Enabling Technologies
- Next Generation Satellite Communications Systems
- Revolutionary Commercial Systems

Friday A.M.

New Product Development and New to the World Products

Jim Lenz, Consultant and Lecturer, University of Minnesota, Minneapolis

- Corporate America and the Mis Management of Technology
- Types of New Product Development and General Practices
- Processes for 'New to the World' Product Development
- Role of Entrepreneurship: Case Study of Bubble Jet Printer, Guinness Widget, etc.

Friday P.M.

Integrated Circuits

Peter Alfke, Director of Applications Engineering, Xilinx, Inc.

- Introduction to Analog and Digital Integrated Circuits
- High Speed Electronic Systems Design
- Programmable Logic
- The Future of Integrated Circuits